

We claim:

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1. A system for storing at least one frame of an input signal for an amount of time before transmitting the at least one frame, the system comprising:
- a buffer for storing a frame of an input signal, the buffer having a depth which is adjustable;
 - a clock for indicating an arrival-time of the frame received at the buffer, the frame having a timestamp denoting a playback-time;
 - a comparison module for comparing the arrival-time with the playback-time for determining whether the frame arrived on schedule, the comparison module determining an amount of time if the frame did not arrive on schedule; and
 - a buffer depth adjuster for altering the depth of the buffer responsive to the comparison module determining the frame did not arrive on schedule, wherein the depth of said buffer is altered based on the amount of time said frame did not arrive on schedule.
2. The system of Claim 1, wherein if the frame arrived late, the comparison module determines an amount of time said frame arrived late.
3. The system of Claim 2, further comprising:
- a late-counter responsive to the comparison module, the late-counter stores a count of frames arriving late.
4. The system of Claim 3, wherein the buffer depth adjuster responsive to the late-counter exceeding a predetermined value, said buffer depth adjuster causing the depth of said buffer to increase.
5. The system of Claim 4, wherein the depth of the buffer increases by the amount of time determined by the comparison module, and said amount of time corresponding to a maximum amount of time which a frame within a set arrived late.

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6. The system of Claim 5, wherein a length of the set is variable.
7. The system of Claim 5, wherein the depth of the buffer increases by adjusting the clock by the maximum amount of time which the frame within the set arrived late.
8. The system of Claim 1, wherein the depth of the buffer does not increase above a maximum predefined value.
9. The system of Claim 1, wherein if the frame arrived early, the comparison module determining an amount of time said frame arrived early.
10. The system of Claim 9, further comprising:
an early-counter responsive to the comparison module, the early-counter stores a count of frames arriving early.
11. The system of Claim 10, wherein the buffer depth adjuster responsive to the early-counter exceeding a predetermined value, said buffer depth adjuster causing the depth of said buffer to decrease.
12. The system of Claim 11, further comprising:
a buffer-counter for storing a count of frames stored in the buffer; and
a buffer detector unit responsive to the early-counter exceeding a predetermined value, the buffer detector unit causing the buffer depth adjuster to decrease the depth of the buffer by an amount of time dependent on the buffer-counter.
13. The system of Claim 12, wherein the depth of the buffer decreases by adjusting the clock by the amount dependent on the buffer-counter.

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14. The system of Claim 1, wherein the depth of the buffer does not decrease below a minimum predefined value.
15. The system of Claim 1, further comprising:
a sequencer module for arranging the frames stored in the buffer in an order for playback.
16. A system for storing at least one frame of an input signal for an amount of time before transmitting the at least one frame, the system comprising:
a buffer for storing a frame of an input signal, the buffer having a depth which is adjustable;
a buffer detector unit for determining whether at least a predefined amount of frames are stored in the buffer; and
a buffer depth adjuster for altering the depth of the buffer responsive to the buffer detector unit determining a predefined amount of frames are not stored in the buffer.
17. A method for increasing a depth of a multimedia buffer system, the method comprising the steps of:
receiving a frame of an input signal at an arrival-time, the frame having a timestamp indicating a playback-time;
determining whether the frame arrived late, the frame arriving late if the arrival-time is greater than the playback-time; and
altering the depth of the multimedia buffer system if the frame arrived late.
18. The method of Claim 17, further comprising the step of:
determining an amount of time the frame arrived late if the arrival-time is greater than the playback-time.

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19. The method of Claim 18, wherein depth of the multimedia buffer system is altered to increase by a maximum amount of time which a frame within a set arrived late.
20. The method of Claim 19, wherein the length of the set is variable.
21. The method of Claim 17, further comprising the step of:
providing a late-counter representing an amount of frames arriving late;
prior to performing the step of altering the depth of the multimedia buffer system, determining whether the late-counter exceeds a predetermined value; and
performing said step of altering the depth of the multimedia buffer system if the late-counter exceeds the predetermined value.
22. The method of Claim 17, further comprising the steps of:
prior to performing the step of altering the depth of the multimedia buffer system, determining whether the multimedia buffer system is at a maximum depth; and
performing the step of altering the depth of the multimedia buffer system if said system is not at the maximum depth.
23. A method for decreasing a depth of a multimedia buffer system, the method comprising the steps of:
receiving a frame of an input signal at an arrival time, the frame having a timestamp indicating a playback-time;
determining whether the frame arrived early, the frame arriving early if the arrival-time is less than the playback-time; and
altering the depth of the multimedia buffer system if the frame arrived early.
24. The method of Claim 23, further comprising the steps of:
providing an early-counter representing an amount of frames arriving early;

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prior to performing the step of altering the depth of the multimedia buffer system, determining whether the early-counter exceeds a predetermined value; and performing said step of altering the depth of the multimedia buffer system if the early-counter exceeds the predetermined value.

25. The method of Claim 23, further comprising the step of:
determining an amount of frames stored in the multimedia buffer system.

26. The method of Claim 25, wherein the depth of the multimedia buffer system is decreased by an amount dependent on the amount of frames stored in the multimedia buffer system.

27. The method of Claim 23, further comprising the steps of:
prior to performing the step of altering the depth of the multimedia buffer system, determining whether the multimedia buffer system is at a minimum depth; and
performing the step of altering the depth of the multimedia buffer system if said system is not at the minimum depth.

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